

INDIAN CENTRAL COTTON COMMITTEE



A GUIDE TO INDIAN COTTONS

(Revised 1956)



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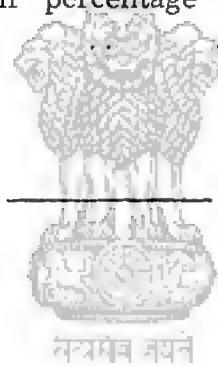
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PREFACE

The "Guide to Indian Cottons" was first issued in 1937 as a joint publication of the Indian Central Cotton Committee and the East India Cotton Association Ltd., Bombay. Not only there have been several changes in the varieties grown in the different cotton tracts but the classification of Indian cottons has also been modified with the result that the Guide has become obsolete and revision was called for.

The publication embodies, in a nutshell, the area, production, yield per acre, spinning performance and special characteristics of the different varieties of Indian cottons. The information has been collected and arranged by the Secretariat of the Indian Central cotton Committee in consultation with the State authorities and the East India Cotton Association. The figures of acreage and production of the different varieties for 1955-56 could not be included, as they are still incomplete in respect of many States. In order to facilitate inclusion of additional information as and when it becomes available from year to year up to 1960-61, space has been provided in the statement given under each of the different varieties.

The assistance rendered by the Economic Botanists, Cotton Breeders and Cotton Specialists in the preparation of the Guide is gratefully acknowledged. Our special thanks are also due to the East India Cotton Association Ltd., Bombay, who have examined the manuscript and offered suggestions for its improvement.

It is hoped that the Guide would meet the needs of the cotton research workers—in India and abroad—the trade and the Indian Textile Industry. The Committee would gladly welcome and appreciate any suggestions from the readers for enhancing the value and the usefulness of this Guide.

Bombay,
18th October, 1956.

B. L. SETHI,
Secretary,
Indian Central Cotton Committee.

INDIAN CENTRAL COTTON COMMITTEE

I. BENGALS.

(i) General :

'Bengals' is a general name given to a number of varieties of indigenous (**desi**) cotton, grown over the whole of Northern India from Bengal to Punjab. Texture is coarse but the colour is good when not stained by pink bollworm. Bengals are the shortest stapled cottons in India barring the Comillas.

(ii) Varieties included in the group :

IMPROVED STRAINS

(A) U. P. Deshi

(1) C. 520.

(2) 35/1.

(B) Punjab Deshi

(1) Mollisoni-M60-A2.

(2) Rosea 231.

(C) Rajasthan Deshi

(1) Ganganagar - 1.

(iii) Species composition :

Mixture of *G. arboreum* race *bengalense* with a small and very variable percentage of *G. arboreum* race *indicum*.

(iv) Extent of the tract :

(States and Districts)

(A) *U.P. Deshi*: --

Uttar Pradesh, Bihar, Orissa (excluding the districts of Korapur and Ganjam) and Vindhya Pradesh.

C.520—

This has been replaced by 35/1 and is out of cultivation.

35/1—

Sahranpur, Muzaffarnagar, Bijnor, Meerut and Moradabad districts of Uttar Pradesh.

(B) *Punjab Deshi*:— Punjab, Delhi, Pepsu and Himachal Pradesh.

Mollisoni M.60-A2—Hissar, Rohtak, Karnal and Gurgaon districts of Punjab.

R.231— Hoshiarpur, Ambala, part of Gurdaspur, Jullundur and Ludhiana districts of Punjab.

(C) *Rajasthan Deshi*:— Ajmer State, Rajasthan (excluding Jhalawar district, parts of Mewar tract and Banswara-Dungarpur tract).

C.520— This is fairly widespread in Tonk and Jaipur districts and some part of Sawai-Madhopur district of Rajasthan.

Ganganagar-1— Ganganagar canal area, Tonk and Jaipur districts and some part of Sawai-Madhopur district of Rajasthan.

(v) **Special peculiarities, if any :**

Susceptible to Root Rot and Wilt diseases.

Sowing period—April to July.

Picking period—September to January.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (in millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
(A) U. P. Deshi	650	221	34	20-21	0.250	6-8	6-10
C. 250*	708	248	35	23-24	0.220	8-12	9
35/1	714	264	37	26	0.211	16	6
(B) Punjab Deshi	900	315	35	19	0.310	6	7
Mollisoni-							
M. 60-A2	1029	391	38	20	0.304	6	9
R. 231	1168	502	43	20	0.324	6	8
(C) Rajasthan Deshi	710	234	33	17	0.228	8-11	11
Ganganagar-1	656-820	262-328	40	20	0.250	8-11	6-10

* C. 520 is out of cultivation at present in U. P. but is in cultivation in some parts of Rajasthan.

(vii) **Statistical position for the last five years :**

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Bengals		(In thousands)	
	1950-51	1032	437
	1951-52	1179	426
	1952-53	1080	407
	1953-54	847	353
	1954-55	847	292
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

II. AMERICANS—(1) PUNJAB AMERICAN.**(i) General :**

The first variety of Punjab-American cotton grown in the undivided Punjab on a commercial scale was 4 F, which was given out to the farmers in 1914. An improved strain named L.S.S. (Lab Singh Selection) which is a selection from 4 F, was released in 1933 and it gradually replaced the parent strain. L.S.S. is a late ripening variety and requires irrigation in the months of October and November. The first variety of Punjab-American cotton, given out after partition was 216 F. It is an early ripening variety, selected from M.4 of Sind and is suitable for the Harijana tract. It was released for general distribution in 1948. Another improved strain, viz., 320 F which is a selection from L.S.S. was released for general distribution in 1952. It is superior to L.S.S. in fibre properties and is about a month earlier in maturity, on which account it is fast replacing

L.S.S. Yet another improved strain, viz., H. 14, which is a reselection from 216 F has been evolved and released for general distribution in 1955. H.14 is superior to 216 F in yield, ginning percentage and fibre properties and matures about two weeks earlier.

(ii) **Varieties included in the group :**

- (i) Punjab-American L.S.S.
- (ii) Punjab-American 216F.
- (iii) Punjab-American 320F.
- (iv) Punjab-American H.14.

(iii) **Species composition :**

G. hirsutum.

(iv) **Extent of the tract:**

(States and Districts)

- (i) *Punjab-American L.S.S. :—* Ferozepur district of Punjab and parts of Bhatinda district of Pepsu.

- (ii) *Punjab-American 216 F:—* Hissar, Gurgaon, Rohtak and Karnal districts of Punjab.

Mansa Tehsil and Police Station Maur of Bhatinda district and Jind and Narwana Tehsils of Sangrur district of Pepsu; Tanjore, Tiruchirapalli, Madurai North and South Arcot and Chingleput districts of Madras State.

Agra and parts of Rohilkhand, Meerut and Allahabad divisions of Uttar Pradesh.

- (iii) *Punjab-American 320 F:—* Ferozepur, Ludhiana, Jullunder, parts of Hoshiarpur, Amritsar and Gurdaspur districts of Punjab.

Bhatinda district (excluding Mansa Tehsil and Police Station Maur), Patiala, Kapurthala and part of Sangrur district of Pepsu.

- (iv) *H.14:—* Gang-cannal colony of Rajasthan. Haryana tract of Punjab.

(v) **Special peculiarities, if any:**

Punjab-American cottons, as a class, are characterised by high fibre strength with a Pressley Index of over 8. Punjab-American 216F is an early ripening variety. Punjab-American 320F is resistant to Jassid. Punjab-American H.14 is even earlier maturing than 216F, which feature helps in dodging the attack of pink boll-worm.

Sowing period—April to May.

Picking period—October to January.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percent- age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	<i>Kapas</i>	Lint					
4F	950	304	32	24-26	0.154	20	8-10
L.S.S.*	1278	422	33	26-28	0.166	24	6-10
216F**	1173	387	33	28-30	0.148	32	12
320F**	1114	379	34	28-30	0.150	32	12
H.14**	1267	443	35	30	0.142	32	8-13

*Superior medium staple ($1\frac{1}{8}$ " to $\frac{2}{3}$ ").

** Long staple ($\frac{7}{8}$ " to $\frac{3}{4}$ ").

(vii) **Statistical position:**

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Punjab-American L.S.S.	1950-51	188	104
	1951-52	181	104
	1952-53	175	126
	1953-54	102	74
	1954-55	85	56
	1955-56	118	71
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Punjab-American 216F		(In thousands)	
	1950-51	4	4
	1951-52	66	20
	1952-53	121	56
	1953-54	166	96
	1954-55	276	163
	1955-56	286	138
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		
Punjab-American 320F	1951-52	2	1
	1952-53	53	28
	1953-54	200	162
	1954-55	494	284
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Note:- The area and production of L.S.S., 216F and 320F represent the total figures i.e. including other States where they are grown.

II. AMERICANS—(2) MADHYA PRADESH AMERICAN.

(i) General :

Cambodia cotton in Madhya Pradesh was originally introduced in the light soils of the Chattisgarh division in the east of the old Central Provinces. The Cambodia cotton was grown as a mixture of several strains. The area under this cotton is dwindling. Another type of American cotton acclimatised in Madhya Pradesh is known as 'Buri' cotton. The lint of this cotton, however, was weak and attempts were, therefore, made to get a strain with consistent lint strength. Intensive selection yielded the improved strain Buri 107. This is, however, a low ginner and on this account is slowly losing its popularity. Another improved strain Buri 0394, a reselection from Buri 107 has been developed and this has a much higher ginning outturn and also gives higher yield. Buri 0394, was released for general distribution in 1950-51.

(ii) Varieties included in the group :

- (i) Madhya Pradesh Cambodia.
- (ii) Buri 107.
- (iii) Buri 0394.

(iii) Species composition :

G. hirsutum.

(iv) Extent of the tract :

(States and Districts)

(i) *Madhya Pradesh*—Akola, Amaravati, Yeotmal, Wardha and *esh Combodia*:—Nimar districts.

(ii) *Buri 0394*:— Nimar, Nagpur, Wardha, Akola. Amara-
vati and Yeotmal districts.

(v) Special peculiarities, if any :

Buri 0394 is an early variety.

Sowing period—June to July.

Picking period—November to January.

(vi) **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
(i) Madhya Pradesh Cambodia*	360	115	32	26-28	0.171	22-24	9
(ii) Buri 107*	342	96	28	28	0.151	24	5
iii) Buri 0394@	504	166	32-34	28-30	0.142	28	4

* Superior medium staple (13/16" to 27/32")

@Long staple (7/8" to 31/32")

(vii) **Statistical position for the last five years:**

Name of the variety	Year	Area in acres	Production in bales of 392 lbs. (Estimated)
Madhya Pradesh Cambodia	(In thousands)		
	1950-51	208	46
	1951-52	289	73
	1952-53	216	50
	1953-54	247	39
	1954-55	222	36
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Name of the variety	Year	Area in acres	Production in bales of 392 lbs. (Estimated)
		(I n t h o u s a n d s)	
Buri 107	1950-51	77	11
	1951-52	71	14
	1952-53	42	8
	1953-54	148	25
	1954-55	(Out of cultivation)	
Buri 0394	1951-52	8	3
	1952-53	78	15
	1953-54	160	29
	1954-55	191	31
	1955-56	192	19
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

II. AMERICANS — (3) BOMBAY AMERICAN.

(i) General :

The types included under this group are Laxmi grown in the Karnatak tract and 170-Co. 2 and 134-Co. 2-M grown in the Gujerat and Deccan Canal area.

Originally the Dharwar-American variety consisted of a mixture of the acclimatized material. By selection from this, Gadag No. 1 was isolated and distributed. To further improve Gadag No. 1, it was crossed with Co. 2, a Cambodia strain from Madras and a segregate 9-3 was obtained. This was given the popular name of Laxmi and released for general distribution in 1949-50. In order to evolve cottons over one inch in staple length, attempts were made at Surat to make crosses between Asiatic and American varieties and breed synthetic types. As a result of this research, two Indo-American strains, viz., 170-Co.2, -(D.A.2-6-5 x G.6) O.F. x Co.2- and 134 Co.2-M., - [(D.A.2-6-5 x 1027 A.L.F.) x D.A.2-6-5] Co. 2 x Meade-were evolved. These two strains were released for general distribution in 1952-53.

(ii) Varieties included in the group :

- (i) Laxmi.
- (ii) 170-Co 2
- (iii) 134-Co.2.M.

(iii) Species composition :

G. hirsutum.

(iv) Extent of the tract :

(States and Districts)

- (i) *Laxmi*:— Belgaum, Bijapur and Dharwar districts of Bombay State; Raichur district of Hyderabad State; Chitaldrug and Bellary districts of Mysore State; Kurnool, Cud-dapah and Anantapur districts of Andhra State.
- (ii) *170-Co.2*:— Sabarkantha, Kaira, Panch Mahals, Baroda, Broach and Surat districts and Deccan Canals area of Bombay State.
- (iii) *134-Co.2-M*:— Sabarkantha district of Bombay State.

(v) **Special peculiarities, if any :**

Laxmi shows great resistance to red-leaf blight. It is, however, susceptible to black-arm disease.

134-Co. 2-M is particularly suited to the light soils of North Gujarat. Leaves of this are broad, big and 4 to 5 lobed in the initial stage. Bolls are big in size and elongated with flattened sides. The common pests are Jassids. Thrips, Aphids and Leaf-roller. Black-arm is also one of the common diseases affecting this cotton.

Sowing period—August to September. }
Picking period—February to May. } Laxmi.

Sowing period—May to July. }
Picking period—February to March. } Indo-American
cottons.

(vi) **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Laxmi*	306	110	36	29-30	0.134	32	6
170-Co.2@	1046 & { 348 + }	387 129	36-38	32-36	0.129	36-38	5-8
134-Co.2-M@	824 & { 232 + }	288 81	34-36	34-38	0.132	36-38	5-8

& Partially irrigated conditions.

+ Rainfed conditions.

@ Superior long staple (1" and above).

* Long staple ($\frac{7}{8}$ " to $\frac{3}{2}$ ").

(vii) Statistical position :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Laxmi		(I n t h o u s a n d s)	
	1950-51	100	20
	1951-52	321	53
	1952-53	450	61
	1953-54	1095	202
	1954-55	1303	166
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		
170-Co.2	1952-53	24+	12+
	1953-54	36	17
	1954-55	56	28
	1955-56	127	61
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

+ Includes figures for Co.4-B.40.

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(I n t h o u s a n d s)	
134-Co.2-M	1953-54	3	2
	1954-55	23	12
	1955-56	118	58
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Note: The area and production of the above varieties represent the total figures i.e. including other States also.

II. AMERICANS — (4) MADRAS AMERICAN.

(i) General :

The American cotton grown first in Madras State was "Cambodia", a type of American Uupand, the seed of which was obtained direct from Cambodia in about 1905. Improvement of Cambodia cotton commenced in 1918-19 and the first improved strain to gain popularity was Co.2, a pure line selection isolated from bulk Cambodia. Further work resulted in Co.3, a selection from a cross between Co. 2 and U.4/4, (Uganda). The next improved type to be evolved was Co.4, a cross between Co.2 x A.12, a South African cotton. Further improvement by reselection from Co.4 resulted in the evolution of Co.4-B.40 (re-named M.C.U.1 and popularly known to the trade as "Rajapalayam"). Still further improvement led to the evolution of M.C.U.2, a multiple hybrid involving Cambodia, A.12, U.4 and Sea-Island.

Punjab American 216F is also grown in the rice fallows of the Tanjore delta.

(ii) Varieties included in the group :

(i) Co.2.

- (ii) Co.4.
- (iii) M. C. U. 1 (Rajapalayam).
- (iv) M. C. U. 2.

(ii) **Species composition :**

G. hirsutum.

(iv) **Extent of the tract :**
(States and Districts)

- (i) Co.2:— Salem, Coimbatore and Madurai districts of Madras State.
- (ii) Co.4:— Salem, Coimbatore, North Arcot, Tiruchirapalli, Chingleput and South Arcot districts of Madras State.
- (iii) M.C.U.1:— Ramanathapuram, Salem, Coimbatore, Madurai, South Arcot, Tiruchirapalli and Tirunelveli districts of Madras State.
Poona, Ahmednagar and Sholapur districts of Bombay State.
- (iv) M.C.U.2:— Ramanathapuram district of Madras State.

(v) **Special peculiarities, if any :**

Sowing period—March for summer crop and September to November for winter crop.

Picking period—September for summer crop and March to May for winter crop.

(vi) **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	<i>Kapas</i>	Lint					
Co. 2*	725	225	31	30	0.142	24-28	5-7
Co. 4*	900	306	34	30	0.136	24-28	5-7
M. C. U. 1.@	900	315	35	32-34	0.133	36	8
M. C. U. 2.@	1200	384	32	32-35	0.114	36-38	4-7

@ Superior long staple (1" and above).

* Long staple ($\frac{7}{8}$ " to $\frac{31}{32}$ ").

(vii) **Statistical position :**

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Cambodia Co. 2 (including Cambodia)	1950-51	183	80
	1951-52	254	122
	1952-53	150	48
	1953-54	200	83
	1954-55	167	43
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
M. C. U. 1 and M. C. U. 2	1950-51	53	33
	1951-52	67	36
	1952-53	94	63
	1953-54	146	74
	1954-55	169	117
	1955-56	291	171
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Note:- The area and production under Cambodia and M.C.U. 1 and 2 indicate the total figures i.e. including other States.

II. AMERICANS—(5) MADHYA BHARAT AMERICAN.

(i) General :

There are two distinct cotton tracts in Madhya Bharat viz., Nimar and Malwa. In the Nimar tract, the local cotton viz., **nimadi** was grown which consisted of a mixture of **desi** and American, the latter component rarely exceeding 20%. In later years, the American type of cotton known as Buri grown in the adjoining areas of Madhya Pradesh found its way into the Nimar tract and is at present under cultivation there. In the Malwa tract, attempts were made to grow Cambodia cottons imported from Madras. This cotton got mixed up with the local **desi** except in the former Dhar State, where it came to be known as Dhar Cambodia. Improvement work was carried out at the Institute of Plant Industry, Indore from 1934. Single plant selections were made from the bulk crop which yielded two strains M.U.3 and M.U.4. These two

were not really suitable and as a result of further research work a new strain, Indore-2 obtained from X-rayed material of M.U.4 was evolved. This strain has been found promising and has been given out for general distribution.

(ii) **Varieties included in the group :**

- (i) Dhar Cambodia.
- (ii) Indore-2.

(iii) **Species composition :**

G. hirsutum.

(iv) **Extent of the tract :**
(States and Districts)

Rajgarh, Shajapur, Indore, Dhar, Ratlam, Ujjain, Mandsaur, Dewas, Khar-gone and Jhabua districts of Madhya Bharat.

(v) **Special peculiarities, if any :**

Sowing period—June.

Picking period—November to January.

(vi) **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	<i>Kapas</i>	Lint					
Dhar Cambodia*	500	145	29	24-26	0.154	18-20	7-11
Indore-2**	600	186	31	26-28	0.145	26-28	6

* Medium staple (above $\frac{1}{16}$ " and below $\frac{1}{8}$ ").

** Superior medium staple ($\frac{1}{8}$ " to $\frac{3}{32}$ ").

(vii) Statistical position for the last five years:

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
(In thousands)			
Madhya Bharat American	1950-51	279	39
	1951-52	254	34
	1952-53	403	68
	1953-54	265	71
	1954-55	279	51
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

II. AMERICANS—(6) RAJASTHAN AMERICAN.

(i) General :

American cotton is grown mainly in the Mewar tract and the Gang Canal Colony. The variety grown in the Mewar plains was an American type with a mixture of 5% of *desi* cotton belonging to the 'Bengals'. In about 1921, seed of Cawnpore-American 9 was imported from Uttar Pradesh and distributed. It, however, got mixed up with local *desi* and deteriorated in quality. With a view to initiate the development programme varietal trials were undertaken with the 'American varieties' evolved in other parts of the country and as a result, Indore-1 was found suitable. Indore-1 is a selection made at the Institute of Plant Industry, Indore, from Malwa Upland. Further improvement work is in progress.

In the Gang Canal Colony, originally the cotton grown was a mixture of *desi* and Americans. Trials carried out with improved Punjab-American strains like L.S.S., 216F and 320F have indicated that some of these strains can prove to be quite successful in this area. While all these three varieties are under cultivation in this area 320 F is the most popular of them all. Cultivation of this variety is, therefore, being encouraged in this area. Other varieties may prove to be suitable for certain newly developed areas.

(ii) **Varieties included in the group :**

- (i) Cawnpore-American 9.
- (ii) Indore-1.

(iii) **Species composition :**

G. hirsutum.

(iv) **Extent of the tract :**
(States and Districts)

Ganganagar district of Bikaner division, Mewar tract comprising a major part of Udaipur division and Pali district of Jodhpur division in Rajasthan State and parts of Ajmer State.

(v) **Special peculiarities, if any :**

Indore-1 is slightly resistant to red-leaf and leaf-roller.

Sowing period—April to Mid-June.

Picking period—October to January.

(vi) **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (milli-onth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	Kapas	Lint					
C.A.9 (Local) *	526	163	31	22-23	0.144	12-16	9
Indore-1 **	652	196	30	26-28	0.152	20	10

* Medium staple (above $1\frac{1}{8}$ " and below $1\frac{3}{8}$ ").

** Superior medium staple ($1\frac{3}{8}$ " to $\frac{27}{32}$ ").

(vii) Statistical position for the last three years:

Name of the variety	Year	Area acres	Production in bales of 392 lbs.
		(In thousands)	
Rajasthan American	1952-53	46	16
	1953-54	63	20
	1954-55	64	16
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

नमो भगवते वासुदेवाय

II. AMERICANS—(7) HYDERABAD AMERICAN.

(i) General :

The original American cottons grown in the Northern and Central districts of the Hyderabad State appeared to be the remnants of Buri (Upland Georgian) cotton, which had made its way from the adjoining cotton growing areas of Madhya Pradesh. The cotton was grown mostly mixed with indigenous local varieties. Breeding work to evolve an improved type resulted in Parbhani-American-1, which is a single plant selection made in 1932 at Parbhani, from a cultivator's field growing a mixed crop of American and *desi* varieties. It is suitable for highland areas with an assured rainfall. Laxmi cotton evolved for the Bombay-Karnatak area is also grown in this State.

(ii) Varieties included in the group :

Parbhani-American-1.

(iii) **Species composition :***G. hirsutum.*(iv) **Extent of the tract :**
(States and Districts)

Adilabad district of Hyderabad State
and to small extent in West Bengal and
Orissa.

(v) **Special peculiarities, if any :**

It is dull white and silky It is suscep-
tible to Thrips but resistant to Jassids.
It is somewhat late maturing.

Sowing period—June to July.

Picking period—October to December.

(vi) **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (milli-onth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	Kapas	Lint					
Local *	250	80	32	24	0.283	12-14	9
Parbhani-*** American-1	250-300	81-97	32-33	28	0.144	24-28	8-10

* Medium staple (above $1\frac{1}{8}$ " and below $1\frac{3}{8}$ ").

*** Long staple ($\frac{7}{8}$ " to $3\frac{1}{2}$ ").

(vii) Statistical position for the last six years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Parbhani-American-1	1950-51	209	39
	1951-52	102	65
	1952-53	90	35
	1953-54	99	16
	1954-55	129	48
	1955-56	133	12
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

II. AMERICANS — (8) MYSORE AMERICAN.

(i) General :

The American cottons known locally as 'Doddahatti' represented by Upland types and grown on the red soils are of recent introduction. The original varieties under cultivation were a mixture and highly susceptible to Red Leaf disease. Improvement work for evolution of better types of disease resistant strains was taken up in 1919. As a result of a cross between Local Doddahatti (Dharwar - American) and a tree cotton which answered to *G. purpurascens*, strain M.A.2 was evolved. It was resistant to Red Leaf disease but did not come up well in respect of fibre properties. Further work resulted in the evolution of M.A.5 which was isolated from a cross between Co.2 and a selection of Uganda cotton. M.A.5 was released for general distribution in 1945.

Another American type grown is 'Laxmi', the description of which has been given under Bombay-Americans.

(i) **Varieties included in the group :**

M.A.5.

(iii) **Species composition :**

G. hirsutum.

(iv) **Extent of the tract :**
(States and Districts)

M.A.5: Mysore, Hassan, Chikmagalur, Shimoga, Chitaldrug districts, as a rotational crop in Mungari Jowar areas, Mandya district and Visveswariah canal irrigated area.

Laxmi: Chitaldrug and Bellary districts of Mysore State.

(v) **Special peculiarities, if any :**

M.A.5 is an early type, fairly resistant to Jassids and Black-arm and tolerates slight water-logging. Resistant to red leaf disease.

Sowing period—March to July.

Picking period — January to March.

(vi) **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	Kapas	Lint					
M.A. 2 *	800-1200	240-360	30	27-28	0.179	27	8
M.A. 5 **	800-1400	280-490	53	33-34	0.138	32	6

Note:— The yield figures are under irrigated conditions.

* Long staple ($\frac{7}{8}$ " to $\frac{3\frac{1}{2}}{8}$ ").

** Superior long staple (1" and above).

(vii) Statistical position for the last six years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
M.A. 5	1950-51	27	10
	1951-52	40	13
	1952-53	32	8
	1953-54	29	10
	1954-55	30	11
	1955-56	42	16
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

II. AMERICANS — (9) UTTAR PRADESH AMERICAN.

(i) General :

The earliest attempt to grow long stapled cottons in Uttar Pradesh was made at Cawnpore from imported exotic types. Single plant selections resulted in the Cawnpore-American cotton which was given out for distribution in Central Circle of the Uttar Pradesh. The acreage, however, dwindled on account of lack of sustained interest and unorganized marketing conditions. At Cawnpore, a pure line selection of an upland variety which was first imported from Persia, was also maintained. This variety named "Perso-American" was found suitable for cultivation in the Western Circle. This cotton could not however, make much headway owing to a number of adverse factors. Attempts are in progress to evolve suitable types. In the meanwhile, however, improved American types evolved in the Punjab like Punjab-American L.S.S., Punjab-American 216F and Punjab-American 320F have been introduced

in this State and are spreading. A description of these varieties has been given under Punjab-American.

(ii) **Varieties included in the group :**

- (i) Cawnpore-American.
- (ii) Perso-American.
- (iii) 216F.

(iii) **Species composition :**

G. hirsutum.

(iv) **Extent of the tract :**
(States and Districts)

Western and Central regions of the State including the districts of Agra, parts of Rohilkhand, Meerut, Bulandshahr, Aligarh, Mathura and Etah of Uttar Pradesh State.

(v) **Special peculiarities, if any :**

Sowing period—Mid-April to Mid-May.

Picking period — September to November.

(vi) **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	Kapas	Lint					
Cawnpore-American	433	152	35	23	0.163	25-30	8
Perso-American	680	218	32	28	0.146	30	9
216 F*	766	253	33	28-30	0.148	32	12

*Long staple ($\frac{7}{8}$ " to $\frac{31}{32}$ ").

(vii) Statistical position for the last six years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Perso-American	1950-51	4	2
	1951-52	2	1
	1952-53	2	1
	1953-54	Out of Cultivation	

II. AMERICANS — (10) SAURASHTRA AMERICAN.

(i) General :

Many years ago, the American cotton type "Cambodia" from Madras appears to have been introduced in the Princely States of Kathiawar, in places where irrigation facilities were available or where rainfall was high. The area under this cotton never rose to any appreciable heights and in the absence of any organized research work, the American type got mixed up with the local and was grown as a mixture. This mixture is known as Kadayo. Recently, seeds of Co.4-B.40 from Madras were imported and grown in areas where facilities for irrigation existed. The new Indo-American strain 170-Co.2 evolved at Surat has also gained popularity with the cultivators and is spreading slowly.

(ii) Varieties included in the group :

- (i) Kadayo.
- (ii) Co.4-B.40.
- (iii) 170-Co.2.

(iii) Species composition :

G. hirsutum.

(iv) Extent of the tract :
(States and Districts)

Saurashtra State.

(v) **Special peculiarities, if any :**

Sowing period — June.

Picking period — October to January.

II. AMERICANS — (11) WEST BENGAL AMERICAN.

The American cotton grown in West Bengal State is the type Parbhani-American-1, the description of which has been given under Hyderabad-American. The present area under this cotton is, however, not significant.

II. AMERICANS — (12) TRAVANCORE-COCHIN AMERICAN.

The American cotton grown in Travancore-Cochin State is the Cambodia type grown in Madras State. The total area under cotton in Travancore-Cochin State during the year 1954-55 was 16,480 acres and the production stood at 8,000 bales. Improved varieties of cotton viz., Co.2 and Co.4 are cultivated only in Trichur district, the estimated area under these varieties being 11,746 acres and 300 acres respectively.

II. AMERICANS — (13) ANDHRA AMERICAN.

The American cotton grown in Andhra State is Laxmi cotton evolved and grown in the Bombay-Karnatak area. The present area and production of Laxmi cotton in Andhra State are 2,21,000 acres and 22,000 bales respectively.

III. VIRNAR (INCLUDING JARILA).(i) **General :**

The Khandesh cotton tract had a large area under short staple cottons, *G. arboreum*. As a result of research, a strain called N.R.6, was evolved. Further improvement work resulted in a strain called Banilla. It was highly susceptible to wilt and also to the vagaries of the season. To overcome this, further research was done which resulted in the strain Jarila (N.V.56-3). It became popular and by 1942 covered the entire Khandesh tract. Yet it needed some improvement in its ginning and wilt resistance. Work on these lines was continued by crossing Jarila x N.R.5 (a high ginner) and this resulted in the evolution of Virnar. Jarila forms the basis of the Indian Cotton Contract of the East India Cotton Association Ltd. since 1941-42.

(i.) **Varieties included in the group :**

Pure types and no other varieties are included. Virnar is of the same species as the group of cottons collectively known as Oomras.

(iii) **Species composition :**

Jarila { *G. arboreum* race *bengalense*.
Virnar }

(iv) **Extent of the tract :**
(States and Districts)

Jarila was first introduced in the Khandesh cotton tract of the Bombay State. Its cultivation subsequently spread to the adjoining tracts in Madhya Pradesh, Hyderabad and also to Madhya Bharat States. Jarila has now been replaced by the new strain Virnar and it is grown in :—

Nasik, East and West Khandesh (excluding Akkalkuwa and Nawapur talukas) districts of Bombay State.

Akola, Amravati, Yeotmal, Buldana, Nimar and Wardha districts of Madhya Pradesh State.

Aurangabad district of Hyderabad State.

Khargone, Rajgarh, Shajapur, Jhabua, Ujjain, Ratlam and Dhar districts of Madhya Bharat State.

(v) **Special peculiarities, if any :**

Jarila which had occupied the entire Khandesh cotton tract could not withstand late rains. It became unpopular with the cultivators on account of its decline in yield over a series of changed seasons. Virnar on the other hand on account of its late maturity could withstand adverse seasonal conditions.

Sowing period—June.

Picking period — November to January.

(vi) Characteristics:

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length in (32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Jarila*	490	167	33-35	24-28	0.166	22-24	9-13
Virnar*	500	193	38-39	26-28	0.191	20-24	6-11

* Superier medium staple ($1\frac{3}{8}$ " and $\frac{3}{8}$ ").

(vii) Statistical position for the last five years:

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Jarila	1950-51	2027	292
	1951-52	2083	392
	1952-53	947	170
	1953-54	676	155
	1954-55	833	139
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Virnar		(In thousands)	
	1950-51	4	1
	1951-52	52	23
	1952-53	458	47
	1953-54	1062	239
	1954-55	997	275
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

IV. H. 420.

(i) General :

Cotton was grown from old times in the Madhya Pradesh. Bani was the common variety grown. But soon on account of its low ginning, poor yield and susceptibility to wilt, it was ousted out and replaced by a mixture of coarse types known as 'Jadi', supposed to have come from East Khandesh. Attempts made to select a high yielding cotton from Jadi resulted in the isolation of 'Roseum' cotton. This cotton was found to be highly susceptible to wilt and organised research was undertaken to improve these cottons. By selection work, Verum 262 was obtained and released in 1929. As it was susceptible to variations in climatic conditions further improvement was undertaken and this resulted in Verum 434 in 1932, which was subsequently released. The growing demand for medium staple cottons necessitated hybridisation work also and several crosses with Bani x Cernuum (Garro Hill cotton) were made and the hybrid H. 420 was evolved. It was released for general distribution in 1949-50.

(ii) **Varieties included in the group :**

H. 420.

(iii) **Species composition :**

A derivative from a cross between *G. arboreum* race *indicum* and *cernuum* (Bani x Garo Hill cotton).

(iv) **Extent of the tract :**

(States and Districts)

Nimar, Wardha, Akola, Amravati and Yeotmal districts of Madhya Pradesh State.

Mostly Anantapur district and Kurnool and Cuddapah districts of Andhra State.

Bellary district of Mysore State.

(v) **Special peculiarities, if any :**

H. 420 is a highly wilt resistant type and can withstand adverse climatic conditions better than Jarila and V.434.

Sowing period — June to July.

Picking period — October to January.

(v') **Characteristics:**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Verum 262*	300	90	30	24-26	0.180	20-24	9
Verum 434*	350	102	29	24-26	0.182	20-20	9
H.420***	580	194	33-34	28	0.183	20-24	4

* Medium staple (below $\frac{13}{16}$ " and above $\frac{11}{16}$ ")

*** Long staple ($\frac{7}{8}$ " to $\frac{31}{32}$ ")

(vii) Statistical position for the last five years:

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(I n t h o u s a n d s)	
H. 420	1950-51	187	38
	1951-52	561	123
	1952-53	1008	178
	1953-54	1055	191
	1954-55	1253	203
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

V. OOMRAS.

(i) General :

"Oomras" is a general name given to cottons produced over very large areas of Madhya Pradesh, Madhya Bharat, Hyderabad States and Poona, Ahmednagar and Sholapur districts of Bombay State and includes many varieties. The name is derived from Amraoti (Oomrawatee) the headquarters of the then Berar Division of Madhya Pradesh. The finer types predominate in Madhya Pradesh and some parts of Hyderabad State. The cultivation of Oomras has considerably declined owing to introduction of improved varieties like Jarila, Virnar, H.420, Malini etc.

(i) Varieties included in the group :

- (1) Madhya Pradesh Oomras.
- (2) Barsi Nagar Oomras.

(3) Madhya Bharat Oomras.

(4) Hyderabad Oomras.

(iii) **Species composition :**

G. arboreum race *bengalense*-contains certain percentage of race *indicum* (Bani) mixture.

(iv) **Extent of the tract :**
(States and Districts)

(i) *Madhya Pra-* Madhya Pradesh State.
desh Oomras:—

(ii) *Barsi Nagar* Poona, Ahmednagar and Sholapur dis-
Oomras:— tricts of Bombay State.

(iii) *Madhya Bharat* Madhya Bharat State.
Oomras:—

(iv) *Hyderabad* Bhir (excluding Mominabad taluka),
Oomras:— Adilabad (Khanapur, Rajura, Sirpur,
Laxatipet and Asifabad talukas), Niza-
mabad, Karimnagar, Mehboobnagar,
Medak, Aurangabad and Warangal d s-
tricts of Hyderabad State.

(v) **Special peculiarities, if any :**

Early maturing cotton, susceptible to wilt, withstands drought.

Sowing period — June to July.

Picking period — September to January.

(vi) Characteristics:

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Madhya-Pradesh Oomras	183	64	35	18-22	0.203	8-16	7-10
Barsi Nagar Oomras	226	79	33-38	18	0.199	10-12	9-11
Madhya-Bharat Oomras	242	80	33	16-20	0.205	8-12	12-13
Hyderabad Oomras	140	49	33-38	18-20	0.202	8-12	9-11

(vii) Statistical position for the last five years:

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Madhya Pradesh Oomras	(In thousands)		
	1950-51	1008	190
	1951-52	1314	310
	1952-53	1584	295
	1953-54	1625	283
	1954-55	1598	271
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Barsi Nagar Oomras	1950-51	59	14
	1951-52	140	40
	1952-53	73	9
	1953-54	113	51
	1954-55	143	29
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		
Madhya Bharat Oomras	1950-51	51	8
	1951-52	75	14
	1952-53	119	19
	1953-54	121	28
	1954-55	149	31
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Hyderabad Oomras	1950-51	493	54
	1951-52	670	94
	1952-53	411	44
	1953-54	437	57
	1954-55	501	62
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

VI. HYDERABAD GAORANI.

(i) General :

Hyderabad Gaorani or Bani was a mixture of *indicum* and *hirsutum* varieties with a trace of *neglectum* types. As the commercial crop was far from pure, improvement work was undertaken. As a result, Gaorani 6, a selection from the indigenous Gaorani or Bani type of cotton was produced and released for general distribution. Gaorani 12 is also a re-selection made at Parbhani and is specially suited to the *chalka* soil of the Telangana tract and released for distribution in 1950. Yet another improved strain Daulat (2204) a re-selection from Gaorani 12, has been evolved and is higher ginner than Gaorani 12. It was released for general distribution in 1955.

(ii) Varieties included in the group :

(i) Umri Bani.

- (ii) Gaorani 6.
- (iii) Gaorani 12.
- (iv) Daulat (2204).

(iii) **Species composition :**

G. arboreum race *indicum*.

(iv) **Extent of the tract :**
(States and Districts)

(i) *Gaorani 6*:— Nanded district, Nirmal taluka of Adilabad district, and Hingoli, Kalamnuri, Basmat talukas of Parbhani District in Hyderabad State.

(ii) *Gaorani 12*:— Bidar, Osmanabad, Aurangabad, and Gulbarga districts, Moominabad taluka of Bhir district and Parbhani, Gangakhed and Jintur talukas of Parbhani district of Hyderabad State.

(iii) *Daulat*:— It is proposed to distribute this variety in Parbhani district.

(iv) *Umri Bani*:— This was formerly grown in areas where Gaorani 6 is now grown.

(v) **Special peculiarities, if any :**

Gaorani 12 is an early type and fairly resistant to wilt.
Sowing period — June.

Picking period — October to December.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	<i>Kapas</i>	Lint					
Umri Bani	250-300	78	28	25-26	0.169	29	10-13
Gaorani 6*	421	135	32	28-30	0.172	26-28	6-10
Gaorani 12*	311	100	31	28-30	0.161	26-28	6-10
Daulat* (2204)	330	119	36	28	0.165	30-32	2-4

* Long staple ($\frac{7}{8}$ " to $\frac{31}{32}$ ").

(vii) Statistical position for the last six years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Gaorani 6 and Gaorani 12	1950-51	426	97
	1951-52	595	128
	1952-53	1112	127
	1953-54	1032	128
	1954-55	1061	158
	1955-56	1075	86
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

The variety Daulat was released for general distribution only in July, 1955.
There is no area under Umri Bani.

VII. MALVI.

(i) General :

Malvi is a variety of cotton grown in Madhya Bharat, Rajasthan and Bhopal States. Bhoj and Maljari are the improved varieties recently evolved. The research work done under the aegis of the Committee at Khargone has resulted in the evolution of the improved strain D.48-154 (Maljari) developed out of a single plant selection made in 1948, from the hybrid material, from a cross between M.9 x Jarila. It gives 45% more yield than local *Nimari* and gins 9.5% better than Jarila. In respect of fibre qualities, it is found to be on a par with Jarila.

(ii) **Varieties included in the group :**

- (i) Malvi-9.
- (ii) Bhoj.
- (iii) Maljari (D.48-154).

(iii) **Species composition :**

G. arboreum race *bengalense*.

(iv) **Extent of the tract :**

(States and Districts)

Rajgarh, Shajapur, Ujjain, Ratlam, Mandsaur, Dewas, Indore, Khargone, Dhar and Jhabua districts of Madhya Bharat State.

Bhopal State; Nimbahera and Pratabgarh talukas of Chittore district and parts of Jhalawar district of Rajasthan State.

(v) **Special peculiarities, if any :**

Malvi-9 is susceptible to wilt, but the new variety, Bhoj is resistant. Maljari (D.48-154) is less susceptible to wilt attack, withstands damage from the drought or heavy rains. It is a high ginning strain (35%) giving more lint than Jarila. The crop in Nimar area ripens a fortnight earlier than that in Malwa area.

Malvi cottons are usually sown in the last week of June and are picked during the period October to December.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Malvi-9*	375-450	120-144	32	22-24	0.208	14-16	11
Bhoj*	410-490	131-157	32	26	0.187	23	10
Maljari* (D 48-154)	413-880	145-308	35	26	0.170- 0.185	30	8

*Medium staple (below $\frac{3}{8}$ " and above $\frac{1}{8}$ ").

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Malvi	1950-51	918	116
	1951-52	776	111
	1952-53	1004	202
	1953-54	1232	222
	1954-55	1398	276
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Maljari (D.48-154) has been recently released for general distribution.

VIII. BROACH-VIJAYA.

(i) General :

In the Broach cotton tract, originally the cotton grown was a mixture of high proportion of high ginning but wilt susceptible and very inferior stapled Goghari variety. An improved strain B.D.8, (Broach Deshi 8) was evolved but it proved to be a low ginner. This strain was, therefore, crossed with high ginning Goghari strains and also with some improved outside strains superior to Goghari in staple qualities. As a result of straight and backcrosses [(B.D.8 x G.A.26) x B.D.8], two segregates B.C.1-2 and B.C.1-6 popularly called, Vijaya were derived. Vijaya was released for general cultivation in 1943 as a composite variety (B.C.1-2 and B.C.1-6). In August, 1946, the Indian Central Cotton Committee decided that only strain 1-2 should be distributed. Attempts were

made to improve Vijaya for its staple and also make it early maturing. For this purpose, 1027 A.L.F. was used in crosses and backcrosses with B.C.1-2 and B.C.1-6. As a result, a new strain 98-41 called Digvijay [(Vijaya x 1027 A.L.F.) x Vijaya] has been evolved and it is proposed to replace Vijaya by this variety. The tract covered by Vijaya is protected both under the Cotton Transport Act, 1923 and the Bombay Cotton Control Act.

(ii) **Varieties included in the group :**

(i) Vijaya.

(ii) Digvijay.

(iii) **Species composition :**

G. hirtaceum race *wightianum*.

(iv) **Extent of the tract :**
(States and Districts)

Broach (excluding Ankleshwar, Jhagadia and Dediapada talukas and part of Nandod taluka lying south of the river Nerbuda and Hansot, Valia and Sagbara talukas), Baroda, Kaira, Sabarkantha and Panchmahals districts and parts of Ahmedabad district lying south of the river Sabarmati including part of Daskori and City talukas and whole of Dehgam taluka in Bombay State.

Saurashtra State. (Digvijay only is cultivated.)

(v) **Special peculiarities, if any :**

"Broach" cotton is well known for its bright colour and softness. Vijaya is found to be suitable for black clayey soil. Digvijay is fully resistant to wilt.

Sowing period—June to July.

Picking period — January to March.

(vi) Characteristics :

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	Kapas	Lint					
Vijaya*	481	192	39-40	24-28	0.159	24-26	5-6
Digvijay**	503	196	39	29	0.154	32	4-5
Broach Local	442	168	38	20-24	0.218	14-18	7-9
B.L. 8	365	117	32	28	0.180	30	5-6

* Superior medium staple ($1\frac{3}{8}$ " to $2\frac{7}{8}$ ").

** Long staple ($2\frac{7}{8}$ " to $3\frac{1}{2}$ ").

(vii) Statistical position for the last six years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
(In thousands)			
Broach-Vijaya	1950-51	779	236
	1951-52	862	120
	1952-53	770	265
	1953-54	818	374
	1954-55	908	402
	1955-56	1116	352
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Digvijay has been released for general cultivation from 1955-56.

IX. SURTI—VIJALPA (2087) (INCLUDING SUYOG).

(i) General :

The variety of cotton originally cultivated in the South Gujerat tract was Surtee Local. As a result of research, an improved type, Selection 1-A Long Boll was evolved. This became popular with the cultivators and there was a tendency to mix it with another improved variety 1027 A.L.F. To overcome this problem, a cross was made between 1027 A.L.F. and selection 1-A Long Boll and synthetic type called Seg.8-1 was evolved therefrom. This cotton popularly known as "Suyog" had a higher ginning percentage and higher yield of lint and was released for general cultivation in 1945. Further improvement work to produce wilt-resistant types has resulted in the evolution of a Segregate 2087 derived from B.C. 1-2 x (B.C. 1-2 x 1027 A.L.F.). This has been given the name of Vijalpa. It was released for general distribution in 1952-53 and has now covered practically the whole area of South Gujerat zone.

(ii) Varieties included in the group :

- (1) Suyog (Seg. 8-1).
- (2) Vijalpa (2087).

(iii) Species composition :

G. herbaceum race *wightianum*.

(iv) Extent of the tract :

(States and Districts):

Surat district, Ankleshwar, Jhagad.a, Dediapada talukas and part of Nandod taluka lying south of river Nerbuda and Hansot, Valia, Sagbara talukas of Broach district and Nawapur and Akkalkuva talukas of West Khandesh district in Bombay State.

(v) Special peculiarities, if any :

1027 A.L.F. was susceptible to cotton wilt disease but Suyog was resistant to wilt to a high degree. Vijalpa is very highly resistant to wilt.

Sowing period — June to July.

Picking period — January to March.

(vi) Characteristics :

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Suyog*	479	167	33-36	28-30	0.199	24-28	7-8
Vijalpa*	523	194	36-37	28-32	0.170	26-30	4-8

* Long staple ($7\frac{7}{8}$ " to $3\frac{1}{2}$ ").

(vii) Statistical position :

Name of the variety	Years	Area in acres	Production in bales of 392 lbs.
(In thousands)			
Suyog	1950-51	438	88
	1951-52	472	70
	1952-53	489	119
	1953-54	377	148
	1954-55	Replaced by Vijalpa	
Vijalpa	1952-53	5	2
	1953-54	93	32
	1954-55	480	160
	1955-56	677	198
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

X. DHOLLERAS — (1) SAURASHTRA AND KUTCH DHOLLERAS, (2) KALYAN.

(i) General :

Cotton grown in North Gujerat is commercially known as Dholleras and comprises three distinct varieties namely Wagad, Latio and Mathio. The origin of Wagad cotton may be traced to the perennial herbaceums of Baluchistan. Isolation of sub-types from local Wagad resulted in the evolution of Wagad-8. To improve its fibre quality Wagad-8 was crossed with 1027 A.L.F. The first generation hybrid obtained from this cross was back-crossed with Wagad-8 and synthetic type named Wagotar was obtained. Wagotar was released for general distribution in 1943. As a result of further work a new type Kalyan was evolved which is a derivative from the back-cross (Wagad-8 x Seg. 22-3-1-3) F₁ x Wagad-8. Kalyan cotton was released for general distribution in 1947.

(ii) Varieties included in the group :

- (i) Wagad.
- (ii) Kalyan.

(iii) Species composition :

G. herbaceum race *wightianum*

(iv) Extent of the tract : (States and Districts)

Part of Ahmedabad district lying north of Sabarmati river, Mehsana and Banaskantha districts of Bombay State.

Madhya Saurashtra, Zalawad, Sorath and Halar districts of Saurashtra State and Kutch State.

(v) Special peculiarities, if any :

Wagad is a hardy variety and is adopted to a wide range of soil and climatic conditions. It is a close boll type which character makes it suitable for growing in windy tracts of north Gujerat. This characteristic is also taken advantage of in harvesting the crop, when the bolls are plucked as such from the plant and cotton later extracted from them by opening the cells.

Sowing period — June to August.

Picking period — January to March.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Wagad *	607	225	37	24-26	0.216	14-18	12-15
Kalyan **	637	251	39-40	26-27	0.182	20	6

* Medium staple (below $\frac{1}{16}$ " and above $\frac{1}{18}$ ").

** Superior medium staple ($\frac{1}{16}$ " to $\frac{7}{32}$ ").

(vii) **Statistical position for the last five years :**

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Wagad	(In thousands)		
	1950-51	1480	283
	1951-52	1318	142
	1952-53	1078	181
	1953-54	948	184
	1954-55	1078	210
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Kalyan	1950-51	105	37
	1951-52	286	41
	1952-53	323	84
	1953-54	428	82
	1954-55	613	238
	1955-56	765	230
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

X. DHOLLERAS—(2) MATHIO (INCLUDING PRATAP).

(i) General :

Mathio cotton is mostly grown in a small portion of the Dhandhuka taluka of Ahmedabad district and in Southern Kathiawar. This is a short staple variety and its name seems to have been derived owing to the resemblance of the leaves of this cotton with those of the leguminous crop of 'Mathio'. It was introduced from Khandesh after the great famine of 1900. Improvement work on Mathio cottons resulted in the improved type "Pratap", derived from a selection made at Ronaj village (Kodinar taluka of Baroda State). It is longer, gins more and spins better than Mathio. It was released for general distribution in 1947.

An improved strain over Pratap, called C.J.73 has been evolved at Amreli. It is a single plant selection from a direct cross between Cawnpore-520 x Jarila. The selection was made in 1948-49. It is

longer, spins better than Pratap and has not been released for distribution so far.

(ii) **Varieties included in the group :**

- (i) Mathio.
- (ii) Pratap.
- (iii) C.J.73.

(iii) **Species composition :**

G. arboreum race *bengalense*.

(iv) **Extent of the tract :**
(States and Districts)

Amreli and Ahmedabad (part) districts of Bombay State. Sorath, Gohilwad and Madhya Saurashtra districts of Saurashtra State.

(v) **Special peculiarities, if any :**

Mathio is a short duration cotton. C.J.73 is earlier than Pratap in boll opening by about a week. It is drought resistant.

Sowing period—Last week of June to beginning of July
Picking period—October to December.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Mathio*	442	133	30	16-18	0.209	10-12	15
Pratap**	374	120	32	24-26	0.175	18-20	6-8
C.J.73**	441	150	34	29	0.151	30	9-12

* Short staple ($\frac{1}{8}$ " and below).

** Medium staple (below $\frac{3}{8}$ " and above $\frac{1}{8}$ ").

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Mathio	1950-51	206	40
	1951-52	176	17
	1952-53	141	22
	1953-54	192	38
	1954-55	300	75
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		
Pratap	1950-51	2	Separate figures are not available.
	1951-52	6	
	1952-53	6	
	1953-54	6	
	1954-55	74	
	1955-56		23
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS—(1) JAYADHAR.

(i) General :

In the Kumpta tract, a selected strain from the local crop, known as Dharwar I, was originally grown, but as it was found to be susceptible to wilt disease, hybridisation was undertaken between this strain and Dharwar II, another selection from the local cotton but highly wilt resistant. A segregate from this cross D.1 x D.2 viz., Jayawant was obtained but this was low ginning and suffered from late rains. Accordingly, hybridisation was undertaken and a cross between K.F.T. 12-2-5 a wilt immune selection from Kumpta cotton and 1 A-14-3 derived from (Dharwar 1 x Rosea) cross was made. As a result a segregate 2-3-68 (K.F.T.12-2-5 x 1 A-14-3), was obtained and was found to be superior to Jayawant. It was given the popular name of Jayadhar and released for distribution in 1950.

(ii) Varieties included in the group :

Jayadhar.

(iii) Species composition :

G. herbaceum (hybrid).

(iv) Extent of the tract : (States and Districts)

Dharwar, Bijapur, Kolhapur, Belgaum
and Satara (South) districts of Bombay
State.

Chitaldrug district of Mysore State.

(v) Special peculiarities, if any :

It is wilt resistant.

Sowing period—August to September.

Picking period—February to April.

(vi) Characteristics :

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	Kapas	Lint					
Jayadhar*	498	149	29-31	28-29	0.191	30	10
Jayawant*	664	183	26-29	26-29	0.183	26	12

* Long staple ($\frac{7}{8}$ " to $\frac{31}{32}$ ").

(vii) Statistical position for the last six years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Jayadhar	(In thousands)		
	1950-51	234	44
	1951-52	609	65
	1952-53	566	51
	1953-54	515	75
	1954-55	627	109
	1955-56	834	130
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS—(2) KUMPTA.

(i) General :

Kumpta is a variety of *G. herbaceum* grown in large areas in the

Southern part of Bombay State, Northern districts of Mysore State and adjoining parts of Hyderabad State.

Jayawant is a pure strain obtained from a cross between two selections of Kumpta and possesses the good characters of both the parents *viz.*, a good staple and fair resistance to wilt. This is replaced by Jayadhar cotton in Bombay State. The medium stapled cotton, Selection 69 is seen to be very well suited to the black cotton soils of the State of Mysore, especially the cotton tracts of Chitaldrug district of North Mysore and is grown purely as a rain-fed crop. Its cultivation was extended to the black soil tracts in South Mysore and North-west of Mysore and was found to be encouraging.

(i.) **Varieties included in the group :**

- (i) Kumpta.
- (ii) Jayawant
- (iii) Selection 69.

(iii) **Species composition :**

G. herbaceum.

(iv) **Extent of the tract :**
(States and Districts)

Raichur district (excluding the Protected Area) and Gulbarga district of Hyderabad State.
Chitaldurg District of Mysore State.

(v) **Special peculiarities, if any :**

Kumpta is susceptible to cotton wilt.
Jayawant and Jayadhar are resistant to wilt.

Sowing period—August to September.

Picking period—February to April.

Selection 69.

Sowing period—August to September.

Picking period—February to March.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Kumpta (Ordinary)	352	83	23-24	26-28	0.193	22	14-16
Jayawant*	664	183	26-29	26-29	0.183	26	12
Selection 69**	280	84	30	24-26	0.180	20	3
Jayadhar*	498	149	29-31	28-29	0.191	30	10

*Long staple ($\frac{7}{8}$ " to $\frac{11}{16}$ "), **Medium staple (below $\frac{1}{8}$ " and above $\frac{1}{16}$ ").

(vii) **Statistical position :**

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
(In thousands)			
Kumpta (Ordinary)	1950-51	449	59
	1951-52	623	60
	1952-53	526	49
	1953-54	412	58
	1954-55	456	44
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Jayawant	1950-51	592	65
	1951-52	331	43
	1952-53	118	6
	1953-54	Replaced by Jayadhar.	
Selection 69	1950-51	10	3
	1951-52	16	4
	1952-53	11	2
	1953-54	37	11
	1954-55	13	6
	1955-56	15	6
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS—(3) WESTERNS.

(i) General :

H. 1 (Westerns-1) is a pure line selection, obtained at the Agricultural Research Station, Hagari, Bellary district, by further selection from within the strain Hagari 25 (Westerns) which by itself is a pure line selection from local Hingari bulk. General distribution of Westerns-1 began in 1926-27.

(ii) Varieties included in the group :

Westerns-1 (H.1).

(iii) **Species composition :***G. herbaceum* var *acerifolium*.(iv) **Extent of the tract :**
(States and Districts)

Bellary district of Mysore State.

Gooty and Tadpatri talukas of Anantapur district, Proddatur, Jammala and Madugwar talukas of Cuddapah district and Pattikonda, Adoni and Alur talukas of Kurnool district of Andhra State.

(v) **Special peculiarities, if any :**

Sowing period—August to September.

Picking period—January to May.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
H.1*	269	75	28	26	0.195	24	10-12

* Medium staple (below $\frac{13}{8}$ " and above $\frac{11}{8}$ ").

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
H.1	1950-51	454	59
	1951-52	435	48
	1952-53	370	38
	1953-54	243	64
	1954-55	179	13
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS--(4) MUNGARI.

(i) General :

The cottons grown in the districts of Anantapur, Cuddapah and Kurnool of the Andhra State and Bellary district of Mysore State consist of three different varieties known commercially as Westerns, Northerns and Mungari. The first two are medium stapled, whilst the last one is a low grade variety, very much akin to Bengals. Mungari is coarse and short stapled. The co-existence of widely different varieties led to mixing and hampered the spread of improved types like Westerns-1 and N. 14. Attempts were, therefore, made to improve Mungari cottons and this resulted in the isolation of 881F (Rayalaseema-1), a re-selection from C.6-3 of the hybrid material from Coimbatore. 881F was released in 1952-53.

(ii) **Varieties included in the group :**

- (i) Mungari.
- (ii) 881F.

(iii) **Species composition :**

G. arboreum race *bengalense*.

(iv) **Extent of the tract :**
(States and Districts)

Bellary district of Mysore State.

Parts of Anantapur, Cuddapah and Kurnool (excluding Cumbum and Markapur talukas) districts of Andhra State.

Raichur (excluding Raichur Protected area) and Gulbarga districts of Hyderabad State.

(v) **Special peculiarities, if any :**

881F suffers from late habit although it is finer and possesses longer staple than Mungari.

Sowing period—August to September.

Picking period—January to May.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Local Mungari*	295	97	33	16-22	0.197	8-10	6
881F**	313	103	33	24-26	0.203	24	4

*Short staple ($\frac{11}{16}$ " and below).

**Medium staple (below $\frac{3}{16}$ " and above $\frac{11}{16}$ ").

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Mungari	1950-51	438	29
	1951-52	367	52
	1952-53	205	36
	1953-54	239	16
	1954-55	223	17
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS—(5) WHITE AND RED NORTHERNS.

(i) General :

'Northerns' is the trade name of the indigenous cotton grown in the Kurnool, Cuddapah and Anantapur districts of the Andhra State. Northerns cotton is mainly a mixture of varieties of two species, *G. herbaceum* and *G. arboreum* race *indicum*. In the black soils, *herbaceum* is the predominating species in the mixture, while on the red soils, *indicum* is the chief component of the mixture. Both the *herbaceum* and *indicum* cottons were kept under observation and it was found by separating them and growing them pure, that the *herbaceum* types contained short and coarse-linted plants in large numbers while the *indicum* types gave fairly fine and strong lint with staple of $\frac{3}{4}$ " to 1". The cotton produced on black soils was usually white linted and that on red soils distinctly red linted. The lint, therefore, is sold under the names "White

Northerns" and "Red Northerns" respectively. Improvement work on Northerns consisted in collection of bulk samples of Northerns cotton from Bellary and other districts and raising them at Nandyal. From these, the *herbaceum* types and red *indicum* were avoided. Work on the White Northerns resulted in the isolation of the improved type Nandyal-14 (N. 14), which was given out for distribution in 1920.

(ii) **Varieties included in the group :**

- (i) White Northerns.
- (ii) Red Northerns.
- (iii) N. 14.

(iii) **Species composition :**

Northerns:— Mixture of *G. herbaceum* and *G. arboreum* race *indicum*.

N.14:— *G. arboreum* race *indicum*.

(iv) **Extent of the tract :**
(States and Districts)

Kurnool district (excluding Pattikonda, Adoni, Alur and a major portion of Cumbum and Markapur talukas) of Andhra State.

(v) **Special peculiarities, if any :**

N. 14 is bright white to creamy. It is a low ginner.

Sowing period—June to October.

Picking period—February to April.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	<i>Kapas</i>	Lint					
Northerns*	400	88	22	26-28	0.168	22	8
N.14**	376	94	25	28-30	0.166	32	8

*Superior medium staple ($1\frac{3}{8}$ " to $\frac{3}{32}$ ").

**Long staple ($\frac{7}{8}$ " to $\frac{3}{32}$ ").

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(I n t h o u s a n d s)	
N.14	1950-51	21	3
	1951-52	20	2
	1952-53	20	3
	1953-54	20	4
	1954-55	30	4
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		
Northerns	1950-51	95	9
	1951-52	88	13
	1952-53	92	9
	1953-54	93	10
	1954-55	84	8
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS—(6) COCANADAS.

(i) **General :**

Cocanadas cotton has the unique distinction of being the only coloured cotton grown in the Indian Union, on a commercial scale. The natural lint of the cotton varies from a drab to reddish brown and is considered to be an asset in the manufacture of certain coloured textiles. This cotton had a good export demand in the past but it declined later during the period of war. Attempts were, therefore, made to improve the colour, strength and yield of Cocanadas bulk. As a result, an improved type called G. 1 (or Cocanadas-1), derived from an inter-strain cross 45x171 was evolved and given out for general distribution in 1947-48. Further work through pure line selection in Palnad Bulk gave another improved type 336B (or Cocanadas-2), which is superior to Cocanadas-1 in intensity of lint colour. This was released for general distribution in 1951-52.

(ii) **Varieties included in the group :**

- (i) Cocanadas-1.
- (ii) Cocanadas-2.

(iii) **Species composition :**

G. arboreum race *indicum*.

(iv) **Extent of the tract :**
(States and Districts)

Nellore, Guntur, Kistna, East Godavari and West Godavari districts, parts of Vishakhapatnam district and Cumbum and Markapur talukas of Kurnool district of Andhra State.

Nalgonda district of Hyderabad State.

(v) **Special peculiarities, if any :**

It is noted for the natural colour of the lint.

Sowing period—July to September.
Picking period—January to April.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	Kapas	Lint					
Cocanadas-1*	585	164	28	24-26	0.182	18-22	6-12
Cocanadas-2*	598	179	30	24-26	0.184	18-22	6-12

* Medium staple (below $1\frac{1}{4}$ " and above $1\frac{1}{8}$ ").

(vii) **Statistical position for the last five years :**

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
(In thousands)			
Cocanadas 1 and 2	1950-51	6	1
	1951-52	13	1
	1952-53	16	3
	1953-54	17	3
	1954-55	56	7
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS—(7) CHINNAPATHI.

(i) **General :**

Chinnapathi is a short staple cotton grown in Srikakulam and Vishakhapatnam districts of Andhra State and Ganjam and Koraput districts of Orissa State. This variety is now being replaced by improved ones.

(ii) **Varieties included in the group :**

Chinnapathi.

(iii) **Species composition :**

G. arboreum race *bengalense*.

(iv) **Extent of the tract :**
(States and Districts)

Srikakulam and Vishakhapatnam districts of Andhra State.

Ganjam and Koraput districts of Orissa State.

(v) **Special peculiarities, if any :**

Sowing period—August to September.

Picking period—January to May.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Chinnapathi *	250-300	63-75	25	17-20	0.193	8-10	6-8

* Short staple ($\frac{1}{16}$ " and below).

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
Chinnapathi	1950-51	5000	Below 500
	1951-52	5000	„ 500
	1952-53	5000	„ 500
	1953-54	5000	„ 500
	1954-55	5000	„ 500
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS—(8) KARUNGANNIES

(i) General :

Originally three *desi* varieties known to the trade as Uppam, Tinnies and Karungannies were grown in the black soils of the southern and central districts of the Madras State. Uppam was grown in parts where rain was late, Karunganni in areas where it was early and Tinnies, a mixture of both, over a fairly large area in southern districts. The Karunganni bulk was replaced by C.7 and later on, it was followed by K.1. K.1 was susceptible to Root-Rot. Further work of hybridization resulted in Karunganni-2, a derivative from the triple hybrid involving Northerns, Cernuum and Cocanadas types, N-3 and 2/13. This was found suitable for the Uppam area and was released for cultivation in 1947-48. Karunganni-2 was, however, not suited to the Karunganni areas in the Coimbatore district. For this purpose another improved strain, Karunganni-5, a selection from an intervarietal *arboreum* hybrid, was evolved and released for distribution in 1944-45.

(ii) **Varieties included in the group :**

- (i) Karunganni-2.
- (ii) Karunganni-5.

(iii) **Species composition :**

G. arboreum race *indicum*.

(iv) **Extent of the tract :**
(States and Districts)

(i) *Karunganni-2*:—Madurai, Ramanathapuram and Tirunelveli districts of Madras State.

(ii) *Karunganni-5*:—Coimbatore, Salem, Tiruchirapalli and Madurai districts of Madras State.

(v) **Special peculiarities, if any :**

Sowing period—October to November.

Picking period—March to June.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percent-age	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percent-age
	<i>Kapas</i>	Lint					
Karunganni-2*	268	83	31	28-29	0.158	26-28	7
Karunganni-5*	216	58	27	28-29	0.175	26-28	6-7

* Long staple ($7''$ to $3\frac{1}{2}''$).

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Karunganni-2	1950-51	117	32
	1951-52	150	30
	1952-53	217	61
	1953-54	228	34
	1954-55	236	59
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		
Karunganni-5	1950-51	85	21
	1951-52	92	20
	1952-53	120	34
	1953-54	115	26
	1954-55	138	34
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

XI. SOUTHERNS—(9) UPPAM (INCLUDING NADAM AND BOURBON).

(i) General :

Uppam cotton is surmised to have been introduced in the 'Tinnies' area about hundred years ago and is said to have got a foot-hold on account of its capacity to come up well in certain soils and droughty years. It is medium stapled, low ginner and poor in spinning value. Nadam is a perennial cotton grown on the light soils in Coimbatore and Tiruchirapalli districts. It was grown only on light and calcareous soils. Bourbon is also a perennial type grown on light soils in Coimbatore district as a component of Nadam. All these three varieties are grown on a very small scale at present and their production is on no commercial scale.

(ii) Varieties including in the group :

- (i) Uppam.
- (ii) Nadam.
- (iii) Bourbon.

(iii) Species composition :

- (i) Uppam:— *G. herbaceum* var *acerifolium*.
- (ii) Nadam:— *G. arboreum* race *indicum*.
- (iii) Bourbon:— *G. hirsutum* var *punctatum*.

(iv) Extent of the tract : (States and Districts)

Coimbatore and Tiruchirapalli districts
of Madras State.

(v) Special peculiarities, if any :

Sowing period — September to October.

Picking period — April to July.

(vi) Characteristics :

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	Kapas	Lint					
Uppam, Nadam and Bourbon*	250	60	23-25	22-26	0.197	14-18	6-8

* Medium staple (below $\frac{1}{16}$ " and above $\frac{1}{8}$ ").

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
(In thousands)			
Uppam, Nadam and Bourbon*	1950-51	18	3
	1951-52	21	5
	1952-53	3	1
	1953-54	64	13
	1954-55	65	10
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

* Area under these varieties has come under irrigation under Bhavani Project and is being replaced by M. C. U.-I.

XII. COMILLAS.

(i) General :

Comillas is the cotton produced in the Assam State mainly in the Garo Hills. It is a coarse, short staple type, white or khaki in colour and harsh. This cotton is mostly exported to foreign countries and also used for domestic consumption. With a view to evolving a variety of hill cotton with higher yield, higher ginning and maximum possible coarseness, research work was undertaken and some promising strains have been evolved and are under trials in the districts.

(ii) **Varieties included in the group :**

Comillas.

(iii) **Species composition :**

G. arboreum race *cernuum* mixed with
G. arboreum race *indicum*.

(iv) **Extent of the tract:**
(States and Districts)

Assam State, mainly in Garo Hills area and Tripura State.

(v) **Special peculiarities, if any :**

It is a high ginner, harsh and white or khaki coloured.

Sowing period — April to May.

Picking period — November to January.

(vi) **Characteristics :**

Name of the variety	Yield per acre in lbs.		Ginning percentage	Staple length (in 32nd inch)	Fibre weight per inch (millionth of an ounce)	Average mill spinning capacity	Blow room loss percentage
	<i>Kapas</i>	Lint					
Comillas*	85	40	47	12-14	0.380	8-10	6-8

* Short staple ($\frac{1}{16}$ " and below).

(vii) Statistical position for the last five years :

Name of the variety	Year	Area in acres	Production in bales of 392 lbs.
		(In thousands)	
Comillas	1950-51	53	19
	1951-52	56	22
	1952-53	60	23
	1953-54	58	27
	1954-55	58	18
	1955-56		
	1956-57		
	1957-58		
	1958-59		
	1959-60		
	1960-61		

OFFICIAL ESTIMATES OF AREA AND PRODUCTION OF COTTON IN INDIA, 1954-55.

(By Trade Descriptions)

Trade description	Area (thousand acres)	Percentage of Column 2 to the total area	Production (thousand bales of 392 lbs. each)	Percentage of Column 4 to the total production
1	2	3	4	5
I. Bengals.				
U. P. Deshi.	148	0.8	37	0.9
Punjab Deshi.	373	2.0	183	4.3
Rajasthan Deshi.	328	1.8	89	2.0
Total:	849	4.6	309	7.2
II. Americans.				
Punjab American.	817	4.5	485	11.3
Madhya Pradesh American.	348	1.9	54	1.3
Madras American.	338	1.8	152	3.5
Bombay Ameri- can.	595	3.2	89	2.0
Madhya Bharat American.	279	1.5	51	1.2
Rajasthan Ameri- can.	64	0.3	16	0.4
Hyderabad Ame- rican.	745	4.1	72	1.7
Mysore American and others.*	436	2.4	139	3.2
Uttar Pradesh American.	36	0.2	12	0.3
Saurashtra Ame- rican.	(a)	—	(b)	—
West Bengal American.	(a)	—	(b)	—
Travancore-Co- chin American.	16	0.1	8	0.2
Total:	3,674	20.0	1,078	25.1

(a) Below 500 acres.

(b) Below 500 bales.

* Includes varieties other than American cotton grown in Mysore State.

Trade description 1	Area (thousand acres) 2	Percentage of Column 2 to the total area 3	Production (thousand bales of 392 lbs. each) 4	Percentage of Column 4 to the total production 5
III. Jarila (including Virnar).	2,509	13.7	468	10.9
IV. Verum.	373	2.0	65	1.5
V. H. 420.	390	2.1	67	1.6
VI. Oomras.				
Madhya Pradesh	1,623	8.8	274	6.4
Oomras.				
Barsi Nagar	143	0.8	29	0.7
Oomras.				
Hyderabad	470	2.6	59	1.4
Oomras.				
Madhya Bharat	122	0.7	25	0.5
Oomras.				
Total:	2,358	12.9	387	9.0
VII. Hyderabad-Gaorani.	1,065	5.8	155	3.6
VIII. Malvi.	1,213	6.6	258	6.0
IX. Broach-Vijaya.	1,122	6.1	428	9.9
X. Surati-Suyog.	559	3.1	186	4.3
XI. Dholleras.				
Gujarat Dholleras.	51	0.3	20	0.5
Saurashtra and Kutch Dholleras.	1,027	5.6	219	5.1
Kalyan.	548	3.0	224	5.2
Mathio.	300	1.6	79	1.8
Total:	1,926	10.5	542	12.6

Trade description	Area (thousand acres)	Percentage of Column 2 to the total area	Production (thousand bales of 392 lbs. each)	Percentage of Column 4 to the total production
1	2	3	4	5
XII. Southern.				
Jayadhar.	614	3.3	98	2.3
Kumpta Ordinary.	366	2.0	31	0.7
Westerns.	310	1.7	31	0.7
Mungari.	223	1.2	32	0.8
White and Red Northerns .	114	0.6	12	0.3
Warangal and Co- canadas.	84	0.5	14	0.3
Chinnapathi.	5	—	(b)	—
Karungannies.	361	2.0	82	1.9
Tirunelvellies.	108	0.6	27	0.6
Uppam, Nadam and Bourbon.	65	0.4	10	0.3
Total:	2,250	12.3	337	7.9
XIII. Comillas.	58	0.3	18	0.4
Grand Total	18,346	100.0	4,298	100.0

(b) Below 500 bales.

